



DNR

# LOGGERHEADLINES

*A publication of the Marine Turtle Program - sea turtle conservation since 1977*

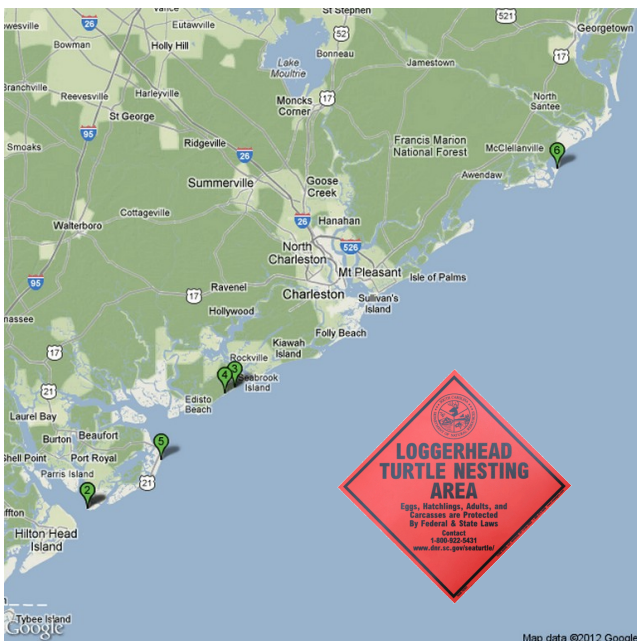
## SOUTH CAROLINA TURTLE PROGRAM BIDS ADIEU

The South Carolina Marine Turtle Conservation Program said goodbye to DuBose Griffin in early 2013 after twelve years with the South Carolina Department of Natural Resources (SCDNR). DuBose began as an intern eventually stepping into the turtle coordinator position in 2006 with the retirement of Sally Murphy. DuBose's accomplishments during her tenure included building the first bald eagle, manatee and turtle websites for the agency, as well as, improved data collection methods, quality assurance and public access. Through collaboration with other state coordinators and Michael Coyne with [seaturtle.org](http://seaturtle.org), a new online nesting database was developed in 2009. It was DuBose's leadership and administrative skills that assisted the Northern Recovery Unit group and Dr. Brian Shamblin in securing a grant to expand Shamblin's genetic mark-recapture study to include North Carolina (NC) and South Carolina (SC). DuBose was also awarded a grant to build our state's first turtle necropsy laboratory. She increased the seasonal staff from two to seven to manage incoming data and increase genetic sample coverage by monitoring undeveloped beaches throughout the state. DuBose's passion for turtle conservation and determination will be missed, but we are happy she is still in Charleston and wish her the best in her new career field.



## NORTHERN RECOVERY UNIT LOGGERHEAD DNA PROJECT

[seaturtle.org](http://seaturtle.org)

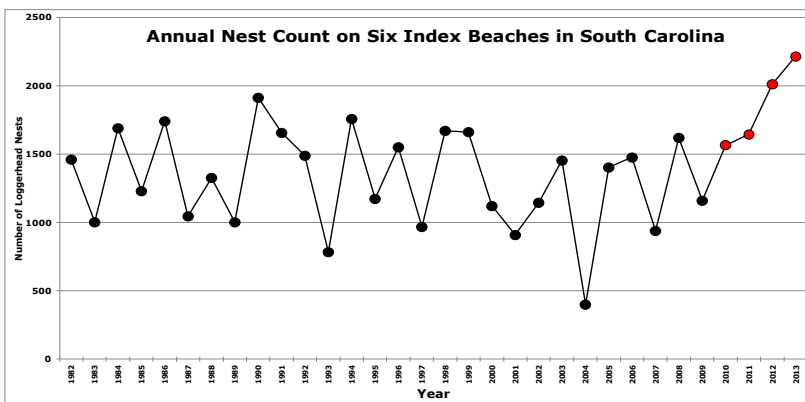


The Georgia DNR, North Carolina Wildlife Resources Commission, and the SCDNR sea turtle programs are participating in a multi-state genetics research project in conjunction with the University of Georgia to answer several basic loggerhead sea turtle nesting questions. Answers to these questions and others will help biologists better understand how the loggerhead population is doing. To date, samples from 34,451 nests have been collected from GA, NC, and SC. Dr. Joe Nairn and Dr. Brian Shamblin have successfully assigned a DNA ID code to 27,554 (80.0%) of these samples identifying **6,682** unique females. The map to the left is an example of one SC nesting loggerhead. She laid six nests on five beaches in SC: Bay Point Island (two nests), Botany Bay Plantation, Edingsville Beach, Hunting Island State Park, and Cape Island in the Cape Romain National Wildlife Refuge.

For complete information on the status of this project, please visit: [www.dnr.sc.gov/seaturtle/genetics.htm](http://www.dnr.sc.gov/seaturtle/genetics.htm).

## SEA TURTLE NESTING IN 2013 HIGHEST YEAR ON RECORD

There was a minimum of 5,194 loggerhead nests on project beaches in 2013. This season also included five green nests. Please refer to page three in this newsletter for nest counts on individual beaches. Visit the online nest database hosted by [SeaTurtle.org](http://SeaTurtle.org) for more detailed information on the 2013 nesting season: [www.seaturtle.org/nestdb/?view=2](http://www.seaturtle.org/nestdb/?view=2). Photograph courtesy of the Folly Beach Turtle Team.



## LONG-TERM NESTING TRENDS

South Carolina has six index beaches with projects that have been conducting standardized ground surveys for loggerhead nests since 1982. These beaches include South Island, Cape Island, Lighthouse Island, Edisto Beach State Park, Edisto Beach, and Fripp Island. These six beaches represent approximately 41% of the nesting effort. The annual number of loggerhead nests over this 32 year period (1982-2013) indicates no significant change, positive or negative. More recently the annual nest counts show an increasing trend. The figure above shows annual loggerhead nest counts on these index beaches from 1982-2013. The natural trend includes high, medium and low years. Since 2010, there have been four strong years in a row (noted in red in the figure above). Historically speaking, nesting in SC prior to SC 1982 was much denser relative to current nest counts with over 2,000 nests solely on Cape Island in the early 1970's. This is compared to an annual average of 1,000 nests on Cape Island in recent years. So while nesting may be rebounding, nest counts are still well below numbers seen in the past.

The South Carolina Marine Turtle Conservation Program began in 1977 with beach management research. The program further developed in the early eighties with the formation of the nest protection and stranding volunteer networks along the coast of South Carolina. Today, the program encompasses research, management, monitoring and education within the local, regional, and international communities. We are indebted to the continued passion, dedication and effort of our staff, partners and volunteers.

### Current Program Staff

Michelle Pate ~ Coordinator  
Charlotte Hope ~ Wildlife Biologist  
Jenna Cormany ~ Wildlife Biologist  
Barbara Gore ~ Field Technician  
Ashton Turner ~ Botany Technician

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The South Carolina Department of Natural Resources prohibits discrimination on the basis of race, color, gender, national origin, disability, religion or age. Direct all inquiries to the Office of Human Resources, Post Office Box 167, Columbia, SC 29202.

This program is funded in part with grants from NOAA Fisheries and the US Fish and Wildlife Service under Section 6 of the Endangered Species Act. Data presented in Loggerheadlines are not to be used in any publication, product, or commercial application without prior written consent of the data owner.



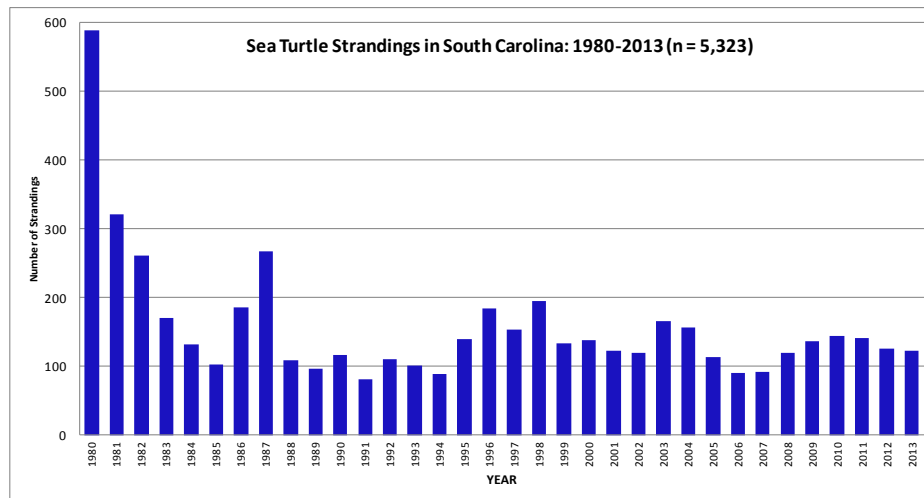
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2013 Sea Turtle Nest Numbers							
Waties Island	14	Sand Island	214	Morris Island	no survey	Pine Island	6*
North Myrtle Beach	11	South Island	137	Folly Beach	108	Beaufort interior	20*
Myrtle Beach	24*	Cedar Island	17*	Kiawah Island	402	Harbor Island	57
Myrtle Beach State Park	4	Murphy Island	2*	Seabrook Island	74	Hunting Island	125
Long Bay Estates	2	Cape Island	1,248	Deveaux Bank	3	Fripp Island	92
Surfside Beach	1	Lighthouse Island	478	Botany Bay Island	177	Pritchards Island	72
Garden City	10	Raccoon Key	28	Botany Bay Plantation	292	Little Capers Island	65*
Hungtington Beach S.P	9	Bull Island	162	Interlude	12	St. Phillips Island	8*
Litchfield Beaches	33	Capers Island	6*	Edingsville Beach	87	Bay Point Island	101*
Pawleys Island	23	Deweese Island	14	Edisto Beach S.P	152	Hilton Head Island	339
Debordieu/Hobcaw	108	Isle of Palms	34	Edisto Beach	109	Dafuskie Island	85
North Island	162*	Sullivan's Island	3	Otter Island	69*	<b>TOTAL</b>	<b>5,199</b>

\*Number represents a minimum nest count because these beaches were not surveyed every day. Increased survey effort contributed to annual total increase.

## STRANDING, POST-MORTEM AND REHABILITATION

Strandings in 2013 (n=126) were similar to 2012 (n=125), but not different from the 10-year mean of 125. There were no strandings reported January through March, 7 in April, 30 in May, 41 in June, 30 in July, 6 in August, and 12 in September through December. The species composition of those stranded was 86 loggerheads, 19 Kemp's ridley, 15 greens, 3 leatherbacks and 3 unidentified. By county (north to south), Horry = 22, Georgetown = 11, Charleston = 56, Colleton = 6, Beaufort = 31, and Jasper = 0.



Of these 126, 23 turtles stranded alive. Four turtles subsequently died during transit and 18 were admitted to the South Carolina Aquarium (SCA) and one to the Georgia Sea Turtle Hospital. Of the 19 admitted, eight were released, seven died and four are still recovering. Eleven post-mortem exams were performed. Three indicated watercraft interaction was the probable cause of

the stranding, four indicated chronic mortality (disease), two indicated shark predation, one death could not be determined and one resulted from a cold-stun event. Visit [www.seaturtle.org/strand/](http://www.seaturtle.org/strand/) for more information on strandings.

The SCDNR Marine Turtle Conservation Program is grateful for the dedicated volunteers that helped with transporting live turtles this year. Nine turtles were driven long distances by Linda Mataya, Mary Pringle, Barb Gobien, Jeff McClary, Bill Brabson, Amber Kuehn and Janie Lackman. We also want to thank the tireless staff and volunteers of the sea turtle hospitals who remain on call 24/7 to admit these turtles and provide excellent care for them during their long recoveries.



**SOUTH CAROLINA AQUARIUM** - With 27 live stranded sea turtles admitted to the South Carolina Aquarium Sea Turtle Hospital, 2013 was second highest admission year since the program began in 2000. Eighteen of the 27 were SC standings and 9 were cold stunned sea turtles from NC and MA. SCA released 31 sea turtles, far more than any year prior, bringing the total number of releases to 131. Huge thanks to the sea turtle community for your support of the program. Keep up on the latest news from the SCA Sea Turtle Rescue Program by visiting [www.scaquarium.org](http://www.scaquarium.org).

## Sea Turtle Rescue Program



### TAG RECAPTURES

Thirty-three rehabilitated and exhibit sea turtles were tagged for release by SCDNR in 2013.

Three stranded sea turtles were reported with tags this season. The first was a leatherback that stranded on Kiawah Island on May 22. This animal was originally tagged in Trinidad by Nature Seekers tagging project. The second was an adult female loggerhead reported by the public on Otter Island, SC. This turtle was originally tagged while nesting on Cape Island on 6/25/2000. The third was an adult female loggerhead brought in by the SCDNR In-Water research group. This turtle was originally tagged on Wassaw Island, GA in 2008.



### Mama Pritchard Returns

South Carolina had a very special visitor this season! Mama Pritchard, a successfully rehabilitated adult female loggerhead has returned to Pritchards Island to nest. She was originally tagged during the nighttime tagging project on Pritchards Island in 2002. She was documented nesting on Pritchards Island again during the 2004 and 2008 seasons. When she nested in 2008, Pritchards Island interns noticed that she had sustained watercraft related injuries. They contacted SCDNR and arranged transport of the turtle to the South Carolina Aquarium Sea Turtle Hospital.

She underwent intensive rehabilitation at the Aquarium and was released in the spring of 2010. While in the hospital, a blood sample was taken that would later be used to identify her. Dr. Brian Shamblin from the University of Georgia was able to genetically match her blood sample to egg shell DNA from four nests on Pritchards Island in 2013. Photograph courtesy of Barbara Bergwerf.

Several nesting sea turtles with tags have been documented over the last few years. See below for details on nest locations and original tag locations.

SC Nest Location/Year	Original Tag Location/Year
Edisto Island (nest 136) - 2012	Blackbeard Island, GA -2003, 2006, 2009
Cape Island (nest 978) -2010	Cape Island, SC -2000
Hilton Head Island (nest 107) - 2012	Wassaw Island, GA - 2012
Frapp Island (nest 77) -2013	Long Island, NY -1995: caught in pound net as juvenile
Hunting Island 2013	Blackbeard Island, GA - unknown date
Frapp Island (nest 19) - 2013	Blackbeard Island, GA - 2001

## NETWORK AND REGIONAL UPDATE



### MARINE TURTLE PROGRAM WELCOMES NEW STAFF

Michelle Pate was selected to succeed DuBose Griffin as the Sea Turtle Program Coordinator for South Carolina. She has been with SCDNR since 2008 previously as a fishery biologist/database manager with the Marine Monitoring and Assessment Program (MARMAP) and with the SCDNR In-water turtle trawl survey. Her diverse experience includes working in the private sector followed by graduate studies on bottlenose dolphin feeding ecology with NOAA's marine mammal stranding laboratory. In addition, she worked with Cape Romain National Wildlife Refuge and Folly Beach on sea turtle nesting surveys, turtle rehabilitation work at the South Carolina Aquarium sea turtle hospital and as a sea turtle night monitor for beach renourishment projects through out the state.

### COMINGS AND GOINGS

The 2013 season was a busy year all around with record numbers of loggerhead nests as well as personnel changes within the program. Kelly Sloan left the program in early spring to work with piping plovers on Long Island, NY with Virginia Tech. She is now leading the nest protection project in Sanibel Island, FL for the Sanibel-Captiva Conservation Foundation. Justin Jay is continuing his filming work with drill monkeys in Equatorial Guinea ([www.thedrillproject.org](http://www.thedrillproject.org)) and has also created a local conservation film series entitled, "Living Lowcountry" ([www.livinglowcountry.org](http://www.livinglowcountry.org)). Lisa Scarano is pursuing her Masters in Environmental Studies at the College of Charleston and has recently accepted a part-time position with The Nature Conservancy working with oyster reef restoration projects throughout the state. Vanessa Bezy is continuing her Masters work with College of Charleston and is currently conducting research on Olive Ridley nests in Costa Rica. Jenna Cormany was promoted to the Wildlife Biologist II position in mid-August left vacant by Kelly Sloan earlier in 2013. Staff welcomed Barbara Gore as a new field technician in July 2013.

The Marine Resources Division is now the new home for the SCDNR Marine Turtle Conservation Program which recently transitioned from Wildlife and Freshwater Fisheries Division. The program will still be physically located on the Fort Johnson campus.

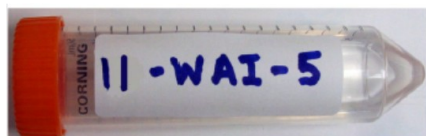
**2014 SEA TURTLE CALENDAR:** This calendar is dedicated to those who work with sea turtles on the beach, and at sea turtle rehabilitation facilities along the eastern United States. Their dedication and your financial support are critical to the future of the species. Let how you can help - visit their websites and get involved! This calendar represents the photographic skills of photographers from Costa Rica to Charleston, SC. Visit [www.bergwerfgraphics.com](http://www.bergwerfgraphics.com) to order the 2014 Sea Turtle Calendar. A donation from the sale of each calendar is given to the South Carolina Aquarium.



2013 Sea Turtle Nesting Season Summary Data	
Nests: 5,199	ADOPT A SEA TURTLE NEST
False Crawls: 5,108	
In Situ : 2,478	
Relocated: 2,721(52.3%)	
Hatchery: 572 (11%)	
Lost Nests: 502 (9.6%)	
First Loggerhead Nest: Kiawah Island (12 May)	
Mean Hatch Success: 67.2%	



Barbara Bergwerf



**Current DNA Regional Results from 34,451 Nests (as of January 23, 2014)**

DNA Samples Assigned: 27,554	Nests per Female: 4.45
Unique Individual Females in Nesting Region: 6,682	Mean Site Fidelity Index: 29.93 km
Unique Females Nesting in SC: 3,820	Minimum Site Fidelity Index: 0.0 km
Unique Females Nesting in SC 2013: 1,210	Max Site Fidelity Index: 663.92 km
Females with Only One Recorded Nest: 1,436	Mean Internesting Period: 9.42 days
Max Number of Beaches Visited: 7	Max Number of Nests: 7

**Florida** - The Florida Fish and Wildlife Conservation Commission (FWC) project reports that more than 35,000 green turtle nests occurred throughout the state's beaches, about two and a half times the previous record. Index beach which span nearly 250 miles of coast are the focus of the Index Beach Nesting Survey, which began in 1989 when biologists documented only 464 green turtle nests. In 2013 this index nest count was 25,553 and represents ~70% of green turtle nesting in all of Florida. Loggerhead sea turtles, the most prevalent sea turtles in Florida, nested at a lower rate than in 2012, which was a near-record year for the species with 98,601 nests. Although this federally-threatened species nests on the same beaches as green turtles and leatherbacks, loggerheads have not shown the recovery in numbers seen in nesting by the other two species. The high nesting in 2012 follows a pronounced drop in nest counts between 1998 and 2007. For information on sea turtle nesting in Florida, visit: [www.myfwc.com/research/wildlife/sea-turtles/nesting/](http://www.myfwc.com/research/wildlife/sea-turtles/nesting/).

**Georgia** - The Georgia Sea Turtle Cooperative documented 2,282 loggerhead nests, the most in a quarter-century of comprehensive surveys on the GA barrier island beaches. 2013 was the state's fourth consecutive nesting record – easily beating the 2,241 in 2012. There were 231 sea turtle strandings this year. Read more about 2013 sea turtle nesting in Georgia here: [www.georgiawildlife.com/node/3403](http://www.georgiawildlife.com/node/3403).

**North Carolina** - The North Carolina Sea Turtle Project observed 1,249 loggerhead, 41 green, 1 Kemp's ridley, and 9 unknown sea turtle nests. The total number of stranded sea turtles was 894 for 2013. Cold-stunned (hypothermic) turtles began washing ashore in mid-November and as of December 2013, there have been 139 turtles recovered. Various collaborators with NC Wildlife Resources Commission helped respond to these hypothermic turtles. For more information visit: [www.seaturtle.org/groups/ncwrc/](http://www.seaturtle.org/groups/ncwrc/).

**VALUE OF VOLUNTEER TIME:** in 2010, a new initiative to document volunteer time was implemented through the **SeaTurtle.org** online reporting system. Documenting volunteer time is important for matching federal grant dollars (financial support for the program) and emphasizing the public's support of sea turtle conservation in South Carolina. This grant matching power is critically important to our program especially during the current economic climate of our state. Visit here to learn more: [www.seaturtle.org/volunteer/](http://www.seaturtle.org/volunteer/). Documenting this time would not be possible without **SeaTurtle.org**.

Year	No. Participants	Hours	Miles	Value	Match Value
2011	376 (34%)	17,364	86,249	\$330,583	\$991,749
2012	352 (32%)	20,520	87,643	\$391,253	\$1,173,759
2013	298 (27%)	18,880	88,465	\$373,391	\$1,120,173





### **VOLUNTEER APPRECIATION**

To all our stranding and nest protection volunteers, We wish we could personally thank each of you for your extra hard work this past turtle season. Not only was it a record breaking nesting year, there were only three SCDNR staff members responding to questions, processing forms and responding to requests from the volunteers. We are indebted to you for protecting 5,199 nests, collecting a genetic sample from each one and taking necessary data on 126 strandings. We do not forget that it is YOU rising before dawn, working in the hot summer heat seven days a week for the 100 day long laying season. Then there are 56 more days of nest checking, inventories and everyone's favorite task - report writing. Thank you for your patience and loyalty to the South Carolina Marine Turtle Conservation Program this season while we were undergoing a staffing transition. Photograph courtesy of Betsy Brabson.

**Protect Beach-Nesting Birds - Felicia Sanders** - Remember from April to August beach-nesting birds congregate along the coast of South Carolina to breed. These include least terns and black skimmers that nest in groups called colonies, and Wilson's plovers and America oystercatchers that nest singly. They nest above the high tide line and lay their eggs in nests that are a little more than a scrape in the sand. Eggs and chicks are camouflaged so they will not be seen by predators. Downy chicks leave their nests soon after hatching and wander between the dunes and water's edge to be fed. Young chicks may hide and rest in tire ruts below and above the high tide line. Beach-nesting birds are extremely sensitive to human disturbance. Every time a bird is forced to fly, it burns valuable energy needed to survive. When people wander too close to nesting areas, adults leave the eggs or chicks which are then exposed to extreme temperatures and predators. So please avoid driving above the high tide line where birds are possibly nesting. Be aware of birds calling loudly. This may indicate you are too close to a nest or chicks. Walk and drive carefully, especially at ends of islands and inlets, watching for cryptic eggs and chicks. These birds are declining and need your help. If you have questions about beach-nesting birds, please contact SCDNR biologist Felicia Sanders: [sandersf@dnr.sc.gov](mailto:sandersf@dnr.sc.gov). Photograph courtesy of Barbara Bergwerf.



**SCDNR Regional In-Water Trawl Survey - Mike Arendt:** 2013 marked the 14<sup>th</sup> continuous year of field work and the 10<sup>th</sup> installment of the full-scale regional trawl survey. A total of 392 sampling events captured 128 loggerheads, 40 Kemp's ridleys, one adult female green, and one juvenile leatherback of undetermined sex. Overall catch rates for Kemp's ridleys and for large juvenile loggerheads have increased significantly since the survey began in 2000. Overall size distribution for loggerhead sea turtles has shifted towards larger individuals accompanying increased catch rates for large juveniles. Since 2008, this shift is also seen with adults; however, this shift in size distribution does not appear to be exclusively due to growth of resident turtles. Size distribution for Kemp's ridley sea turtles has also shifted from being highly skewed towards mid-size juveniles during 2000-2003 to encompassing a full range of neritic size groups since 2012. For more information on In-Water Sea Turtle Research, visit: [www.dnr.sc.gov/marine/sturtles](http://www.dnr.sc.gov/marine/sturtles).



## ANNOUNCEMENTS FROM THE SEA TURTLE OFFICE

**Visit our Web Site for Real-Time Updates:** The SCDNR Marine Turtle Program web site provides up-to-date information throughout the year. Be sure to visit: [www.dnr.sc.gov/seaturtle/](http://www.dnr.sc.gov/seaturtle/).

**34th Annual Sea Turtle Symposium** in New Orleans, Louisiana; 11-17 April 2014.

Visit: <http://http://iconferences.seaturtle.org/>.

**SC CTurtle List Serve:** Keep up with all sea turtle news in SC and beyond by joining our list serve. If you would like to join, please send an email to [coastbio@dnr.sc.gov](mailto:coastbio@dnr.sc.gov).

**Adopt-a-Sea-Turtle-Nest:** You can adopt-a-nest in South Carolina. Proceeds benefit the individual projects and **SeaTurtle.org**. For more information visit [www.seaturtle.org/nestdb/adopt/](http://www.seaturtle.org/nestdb/adopt/).

**Educational Resources:** Please visit our education page for sea turtle educational materials: [www.dnr.sc.gov/seaturtle/outreach.htm](http://www.dnr.sc.gov/seaturtle/outreach.htm).

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**SCDNR Needs Your Support!** Citizens of South Carolina can support SCDNR through a direct donation to the sea turtle program, the purchase of the endangered species license plate and Check Off for Wildlife. The Endangered Wildlife Fund is the foundation of support for threatened and endangered wildlife in South Carolina. Look for line 26 on the long form (SC1040) or line 13 on the short form (SC1040A) of the South Carolina Department of Revenue Individual Tax Return Form, then complete and submit Form I-330. Help us keep wildlife in your life!

Visit: <http://www.dnr.sc.gov/seaturtle/support.htm>.

